

What is claimed is:

1. A thermocouple junction box comprising:
a cup; and
a stud disposed, at least in part, within said cup, said stud being electrically isolated from said cup.
2. A thermocouple junction box as claimed in claim 1, wherein said cup is electrically connected to a thermocouple sensing junction.
3. A thermocouple junction box as claimed in claim 1, wherein said stud is threaded.
4. A thermocouple junction box as claimed in claim 1, wherein said cup comprises type K metal.
5. A thermocouple junction box as claimed in claim 1, wherein said stud comprises stainless steel.
6. A thermocouple junction box as claimed in claim 1, further comprising a conductive element electrically connected to a thermocouple cable and movably disposed along the length of said stud.
7. A thermocouple junction box as claimed in claim 6, wherein said conductive element is a washer or lug.

8. A thermocouple junction box as claimed in claim 6, wherein said conductive element comprises a non-conductive portion, said non-conductive portion being in contact with said stud when said conductive element is disposed on said stud.
9. A thermocouple junction box as claimed in claim 6, further comprising an insulating element independently movably disposed along said stud with respect to said conductive element, said insulating element electrically isolating said conductive element from said stud.
10. A thermocouple junction box as claimed in claim 9, wherein said insulating element has an annular shape.
11. A thermocouple junction box comprising:
a contact element; and
a stud mechanically coupled to said contact element by means of an insulating material and electrically isolated from said contact element by means of said insulating material.
12. A thermocouple junction box as claimed in claim 11, wherein said stud is connected to said contact element by means of friction or interference fit with said insulating material or by means of oxide bonding.
13. A thermocouple junction box as claimed in claim 11, wherein said stud is connected to said contact element by means of brazing or welding to said insulating material.

14. A thermocouple junction box as claimed in claim 11, wherein said insulating material has an annular shape.
15. A thermocouple junction box as claimed in claim 11, wherein said contact element comprises type K metal.
16. A thermocouple junction box as claimed in claim 11, wherein said stud comprises stainless steel.
17. A thermocouple junction box as claimed in claim 11, wherein said contact element is cup-shaped.
18. A thermocouple junction box as claimed in claim 11, wherein said contact element is connected to a thermocouple sensing junction.
19. A thermocouple junction box as claimed in claim 11, wherein said stud is threaded.
20. A thermocouple junction box as claimed in claim 11, further comprising a conductive element electrically connected to a thermocouple cable and movably disposed along the length of said stud.
21. A thermocouple junction box as claimed in claim 20, wherein said conductive element is a washer or lug.

22. A thermocouple junction box as claimed in claim 20, wherein said conductive element comprises a non-conductive portion, said non-conductive portion being in contact with said stud when said conductive element is disposed on said stud.

23. A thermocouple junction box as claimed in claim 20, further comprising an insulating element independently movably disposed along said stud with respect to said conductive element, said insulating element electrically isolating said conductive element from said stud.

24. A thermocouple junction box as claimed in claim 23, wherein said insulating element has an annular shape.

25. A thermocouple assembly comprising:

a thermocouple sensing junction;

a contact element;

a stud adapted to receive thereon a conductive element electrically connected to a thermocouple cable, said stud being electrically isolated from and mechanically coupled to said contact element;

said thermocouple cable being coupled to said thermocouple sensing junction via an interface between said conductive element and said contact element when said conductive element is disposed about said stud and seated on said contact element.

26. A method of reducing thermocouple error comprising:

in a thermocouple junction box having a stud fixedly disposed in relation to a contact element, electrically isolating said stud from said contact element.

27. A method as claimed in claim 26, wherein said stud and said contact element are formed from different metals.
28. A method as claimed in claim 26, wherein said contact element is cup-shaped.
29. A method as claimed in claim 28, wherein said stud is disposed, at least in part, in said cup-shaped contact element.
30. A thermocouple assembly comprising:
a thermocouple sensing junction; and
a connecting portion for positioning a thermocouple cable such that it electrically connects to said thermocouple sensing junction;
wherein said thermocouple sensing junction and said thermocouple cable are electrically isolated from said connecting portion.